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REMARKS

In accordance with the foregoing, the Specification and claim 1 has been amended. Claims 4, 12-13, 23-24, 26, 27 and 28 have been cancelled. New claims 29-31 have been added. Claims 1-3, 5-8, 14-22, 25, and 29-31 are pending and under consideration.

No new features and/or new matter have been added. Accordingly, entry and approval of claims 1 and 29-31 are respectfully requested.

I. Amendment

Independent claim 1 has been amended to delete "(ii) Component C." As a result, the at least one [stabilizer] component may be either a combination of Components (A) and (B) or a combination of Components (A), (B) and (C). Dependent claims 9-11 have been reincorporated as new claims 29-31

In addition, the cells at row 11, columns 3-5, in Table 1 of the Specification have been amended to correct typographical errors. Antecedent basis can be found, for example, at page 26, line 21 through page 27, line 15 of the application and by referring to the structural formulas for Irganox 1098 and Irganox 1076.

II. The Claimed Composition

The composition of amended claim 1 relates to a resin composition that may comprise mainly polytrimethylene terephthalate. The compound having the phenolic hydroxy group (a) and the compound having the specific secondary amine structure (b) (i.e. Components A and B, respectively) may be added to suppress the generation of hazardous acrolein during melt processing so as to produce a resin composition that may be capable of providing a molded article excellent in color tone.

These unexpected results of the claimed composition may be due to synergistic effects provided by the addition of **both compounds**. As shown below, these unexpected results cannot be obtained by adding only one of the two compounds (i.e. adding either the compound having a phenolic hydroxy group (a) or the compound having a secondary amine structure (b), but not both).

In one potential embodiment of present invention, Components A and B are added to a polymer at a point after the completion of polycondensation and while the polymer is in a melted state. In another potential embodiment of the present invention, Components A and B are added to a melted polymer which has been obtained by remelting a once solidified polymer.

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III. Rejection of Claims 1-7, 12, 14-17 and 26-28 Under 35 U.S.C. § 103 as Obvious in View of Kelsey et al. (US 6,093,789).

(1) The Office Action rejects independent claim 1 under 35 U.S.C. § 103 as obvious in view of Kelsey et al. (US 6,093,789). The Office Action asserts that Kelsey et al. teaches a polytrimethylene terephthalate composition comprising a polymer component and Irganox 1098. The Office Action argues that the alleged teachings of Kelsey et al. fulfill the structural requirements of Component C. In response, independent claim 1 has been amended to eliminate the lone addition of Component C to the composition. That is, the amendment excludes the lone addition of stabilizer Irganox 1098 from the claimed composition.

(2) Kelsey et al. does not disclose a PTT resin obtained by using both a hindered phenol type stabilizer and a compound having the claimed secondary amine structure, as recited in amended claim 1. Therefore, amended claim 1 is novel over Kelsey et al., either alone or in combination with the other cited references.

(3) On page 3, line 22 to page 4, line 5 and page 15, line 17 to page 16, line 2, the Specification describes that both the compound having a phenolic hydroxy group (a) and the compound having the specific secondary amine structure (b) are added to suppress the generation of acrolein and to produce a resin composition capable of providing a molded article having excellent color tone.

These unexpected results can be confirmed from the Examples and the Comparative Examples of the Specification.

(i) By comparing Comparative Example 1 to Comparative Example 2, it may be seen that the PTT resin hardly improves in color tone when a hindered phenol stabilizer (an example of Component A) is used alone. Comparing Example 1 to Comparative Example 2 shows that the inclusion of both the amine stabilizer having the claimed secondary amine structure and the hindered phenol stabilizer significantly suppresses acrolein with only a slight reduction in color tone.

(ii) Example 1, Comparative Example 1, and Comparative Example 4 show that a PTT resin having poor color tone is produced when an amine compound that does not have the claimed secondary amine structure is used without the hindered phenol stabilizer. Further, while acrolein was suppressed when the amine compound not having the claimed secondary amine structure was used without Component A, the suppression effects were limited.

(iii) Example 1, Comparative Example 1, and Comparative Example 5 (as amended above) show that using the hindered phenol stabilizer and a nitrogen type stabilizer not having the

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claimed secondary amine structure could improve the suppression of acrolein. However, the resultant PTT resin had very poor color tone.

From the results discussed above, it may be seen that when both the compound having the phenolic hydroxy group (a) and the compound having the specific secondary amine structure (b) are used, the generation of acrolein may be suppressed and a resin composition capable of providing molded articles having excellent color tone may be produced. Using both compounds may provide the synergistic effects described above.

Further, when compounds having a sulfur atom in the form of a thioether group are used together with the above compounds, even greater improvement in the suppression of acrolein may be achieved. See Specification at page 18, lines 11-22 and dependent claims 8 and 19, for example.

Kelsey et al. and the other references cited are silent with respect to the improved and/or unexpected results discussed above. Because amended claim 1 presents improved and/or unexpected results over Kelsey et al. and the other references cited, amended claim 1 would have been nonobvious to one having ordinary skill in the art at the time the invention was conceived.

(4) Additionally, the claimed composition is different from Kelsey et al. and the other cited references on the following two points.

(i) First, while Kelsey et al. may disclose Irganox 1076, a compound meeting the requirements of Component A, Irganox 1076 is never used concurrently with a compound having the claimed secondary amine structure. Irganox 1076 only has a phenolic hydroxyl group and Irganox 1076 is only used as a component in Kelsey et al. in preparations that do not also contain a compound having the claimed secondary amine structure (see the compositions of Kelsey et al. Example 18 containing HP-1). On the other hand, the claimed composition comprises both a compound having a phenolic hydroxy group (a) and a compound having a specific secondary amine structure (b). In the Specification of the present invention, Irganox 1076 is used alone only in the Comparative Examples.

(ii) Second, although the claims are not so limited, in a preferred embodiment of the present invention, the compound having the phenolic hydroxy group is added to a polymer at a point after completion of polycondensation and while the polymer is in a melted state. In contrast, Kelsey et al. describes that a hindered phenol is preferably added "to the polymerization reaction mixture" (i.e. during the polymerization process). See Kelsey et al. at Abstract.

In other words, the claimed invention and Kelsey et al. may solve a similar problem, but Kelsey et al. solves the problem by an entirely different mechanism.

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From the foregoing, amended claim 1 is both novel and nonobvious over Kelsey et al. alone or in combination with the other cited references. Amended claim 1 recites features that are not disclosed by Kelsey et al. or the other cited references. Amended claim 1 also presents unexpected and/or improved results over Kelsey et al. and the other references cited. Therefore, the rejection of amended claim 1 should be withdrawn, which is respectfully requested.

Further, claims 2-3, 5-8, 14-22, 25 and 29-31 depend from nonobvious amended claim 1. US Patent No. 4,897,438 to Kikuchi et al. is cited only for adding a thioether compound to a resin composition. US Patent No. 5,106,905 to Oku et al. is cited only for incorporating stabilizers during a kneading step. Neither of these references compensates for the deficiencies discussed above with regard to Kelsey et al. Accordingly, claims 2-3, 5-8, 14-22, 25 and 29-31 are also nonobvious over the cited references, at least for their dependence on a nonobvious base claim. Therefore, the prior art rejections should be withdrawn, which is respectfully requested.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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By: [Signature]
Mark J. Henry
Registration No. 36,162

1201 New York Avenue, N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-15011

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